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REMARKS

Applicant respectfully requests reconsideration of the application.

In the Office Action dated December 24, 2003:

1. Claims 14, 26, 44, 45, and 49-51 are objected to under 37 C.F.R. 1.75(c) as being of improper dependent form. The Office contends that because these claims are of a different statutory class as their parent claims, they cannot limit their parent claims.
2. Claims 38 and 45 are objected to because of the following informalities: in claims 38, "is" should be "are" in the first line; in claim 45, "decoded" should be "decode".
3. Claim 43 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite due to insufficient antecedent basis for "the encoded source signal" in its second line.
4. Claims 27-28, 33-35 are rejected under 35 U.S.C. 102(e) as anticipated by, in the alternative, under 35 U.S.C. 103(a) as obvious over U.S. Patent No. 5,721,788 to Powell et al. ("Powell").
5. Claims 1, 2, 6-8, 10-14, and 29 are rejected under 35 U.S.C. 103(a) as obvious over Powell.
6. Claims 3, 15, and 17-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Powell and U.S. Patent No. 6,003,005 to Hirschberg.
7. Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Powell in view of Szepanski, "A Signal Theoretic Method for Creating Forgery-Proof Documents For Automatic Verification."
8. Claims 9 and 39-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Powell in view of U.S. Patent No. 4,297,729 to Steynor et al. ("Steynor").
9. Claims 41-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Powell in view of U.S. Patent No. 4,248,528 to Sahay.

The above issues are addressed as follows.

1. Applicant contends that the dependent format of claims 14, 26, 44, 45, and 49-50 is entirely proper, and the Office routinely allows claims in this format. Nevertheless, the issue is moot since Applicant has re-written the claims in independent form per the Examiner's

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suggestion. The Office objected to claim 51 on the same basis, yet upon further inspection, it appears that claim 51 is a straightforward method claim dependent on a method claim (claim 46). As such, Applicant has left claim 51 unchanged.

2. Claims 38 and 45 have been amended to correct the typographical errors noted by the Office.

3. Claim 43 has been amended to refer to a term "encoded data" in base claim 27.

4. In the rejection of claim 27, the Office took the position that the image in Powell reads on distinct elements in claim 27, namely, the carrier signal and source signal. While this may have been an appropriate interpretation, claim 27 is now amended to recite that the carrier signal is separate from the source data for this particular claim.

On pages 4-5 in the Action, the Examiner comments on alternative interpretations of Powell regarding whether Powell describes changing an image by multiplying by a factor and/or by calculating a change followed by addition of the change to the image.

Applicant has submitted an IDS by mail on the same day as the filing of this response. This IDS lists references that may be material to the pending claims. It also lists U.S. Patent No. 6,628,801 by Powell et al. (Powell '801) and U.S. Patent Application Publication 20020090110 by Braudaway et al. (Braudaway), which may be material to the Office's interpretation of Powell and the claims at issue. Powell '801 is a related application to Powell cited by the Office, and both Powell '801 and Powell are assigned to Digimarc, the assignee of this application. Without commenting on whether Powell supports changing an image by addition, Applicant notes that Digimarc has contended and the Office has already concluded that Powell supports a form of changing an image by multiplying as evidenced by claims 8 and 9 of Powell '801 granted by the Office. Moreover, the assignee of the Braudaway application, IBM, as well as the co-inventor of the application, Braudaway, have attempted to take a position that Powell does not support changing an image by "multiplying", yet the Braudaway application at paragraphs 131-132 describes how adding or subtracting can be an alternative and equivalent form of modifying an

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image. Therefore, Powell '801 and the Braudaway application are being cited as potentially bearing on the Office's interpretation of Powell relative to the claims at issue in this application.

5. Powell fails to render claim 1, as amended, obvious. Claims 2, 6-8, and 10-14 are patentable over Powell for the same reason as claim 1. Claim 29 is patentable over Powell for the same reason as claim 27 noted in the previous section.

6. Applicant respectfully traverses the Office's rejection of claims 3, 15, and 17-26 as obvious over Powell in view of Hirschberg. Claim 3 is rewritten in independent form with no change in claim scope. As noted in the Action, Powell does not disclose "a statistical feature of the audio signal is analyzed to decode the code values." Hirschberg does not disclose this aspect of claim 3 either, so even if combined, Powell and Hirschberg fail to disclose all of the elements of claim 3. Hirschberg teaches a text to speech synthesis system in which a programmed computer converts text into speech. The Office contends that Hirschberg teaches generating a code (a set of decision nodes) based on statistical analysis of information. This information is predetermined text, not speech or any form of audio signal, as made clear at col. 3, lines 32-35. Hirschberg does not teach statistical analysis of a feature of audio, much less statistical analysis of a feature of audio to decode auxiliary code values embedded in audio. Moreover, there is no motivation to combine the image and video processing disclosed in Powell with the text processing for training set analysis in Hirschberg.

Regarding claim 15, the combined teachings of Powell and Hirschberg fail to disclose or teach "evaluating a statistical feature of a portion of the audio signal to decode code values of the auxiliary code from the audio signal" in combination with the other elements of claim 15. Dependent claims 17-26 are patentable for the same reasons as claim 15.

The Office has failed to make a prima facie case that all of the elements of claims 21-25 are old, especially in view of the priority date being at least as early as May 95.

7. Claim 38 is patentable over Powell and Szczepanski because the combined teachings of Powell and Szczepanski fail to teach all of the elements of claim 38, which depends on amended claim 27.

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8. The combined teachings of Powell and Steynor fail to disclose or teach the elements of claim 9, as dependent on amended claim 1. In addition, the combined teachings of Powell and Steynor fail to disclose or teach the elements of claims 39-43, as dependent on amended claim 27.

9. The combined teachings of Powell and Sahay fail to disclose or teach the elements of claims 41-43, as dependent on amended claim 27.

Claims 46-48, 52 and 53 are allowed. Claims 4-5, 16, 30-32, 36-37 and 49-50 were indicated to be allowable and have been placed in condition for allowance with no change in claim scope. Claim 51 was also indicated to be allowable, but was objected to. However, since the objection does not appear to apply to claim 51, claim 51 should be allowed.

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Respectfully submitted,

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